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OF THE STATE OF CALIFORNIA**

Application of Pacific Gas and Electric
Company for Approval of the Retirement
of Diablo Canyon Power Plant,
Implementation of the Joint Proposal, And
Recovery of Associated Costs Through
Proposed Ratemaking Mechanisms

Application 16-08-006
(Filed August 11, 2016)

**RESPONSE OF SAN LUIS OBISPO MOTHERS FOR PEACE
TO APPLICATION 16-08-006**

September 15, 2016

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I. Introduction

In accordance with Rule 2.6 of the California Public Utilities Commission (“Commission”) Rules of Practice and Procedure (“Rules”), San Luis Obispo Mothers For Peace, Incorporated (“SLOMFP”) submits this Response to Pacific Gas and Electric Company’s (“PG&E”) Application 16-08-006 (“Application”) for approval of the Joint Proposal to retire Diablo Canyon Nuclear Power Plant and to recover associated costs through proposed ratemaking mechanisms. Notice of the filing of the Application first appeared in the Commission’s Daily Calendar on August 16, 2016; accordingly, this response is timely filed within 30 days thereafter.

SLOMFP has filed this pleading as a response, rather than a protest, because SLOMFP strongly supports the retirement of Diablo Canyon Nuclear Power Plant (“the Plant” or “DCPP”). While SLOMFP appreciates PG&E’s proposal to shutter the Plant, SLOMFP questions PG&E’s assumption that the Plant should continue in operation through the end of the licensing period, and not retire sooner. The robustness of PG&E’s timing assumption should be addressed in this proceeding, and the Commission should direct PG&E to consider, through supplemental testimony, other shut-down timing scenarios, such as shut down in 3, 4 or 5 years. Other issues should also be addressed, as further described and explained below.

II. SLOMFP's Interest

Organized in 1969, SLOMFP is a non-profit public benefit corporation concerned with the health, safety, environmental, and economic impacts of nuclear weapons and nuclear power and the development of alternative energy sources. To that end, SLOMFP has been an intervenor in a number of administrative proceedings concerning the operation of the DCP. SLOMFP has participated in proceedings before the U.S. Nuclear Regulatory Commission ("NRC") in all matters pertaining to safety and the environment with regard to the DCP's operation. SLOMFP, by and through its representatives and attorneys, have appeared before the Atomic Safety and Licensing Board, the Nuclear Regulatory Commission, the Ninth Circuit Court of Appeals and the California Public Utilities Commission on matters related to the DCP.

III. Response

Rule 2.6(d) provides that "any person protesting or responding to an application shall state in the protest or response any comments or objections regarding the applicant's statement on the proposed category, need for hearing, issues to be considered, and proposed schedule." Resolution ALJ 176-3382, dated August 18, 2016, determined that this proceeding should be categorized as ratemaking and that a hearing is necessary. SLOMFP agrees with the categorization, and that evidentiary hearings are necessary to ensure a full and complete record so the Commission can make a fully informed decision on the Application.

A. Issues

1. Timing of DCP's retirement

PG&E's Application states that the utility intends to continue operation of the Plant from now until the end of its licensing period (in 2024/2025), claiming, "[T]his transition period will help to ensure that power remains affordable and there is no increase in the use of fossil fuels. Equally important, this transition period will also provide essential time needed for PG&E's valued employees and the community to effectively plan for the future." (Application at p. 2). Given the following considerations as further explained below, the Commission should require PG&E to identify and evaluate different shut-down timing scenarios to determine the robustness of PG&E's assumption that a nine year transition period is actually needed, or whether a shorter transition period is more appropriate and would be more beneficial to ratepayers and the environment.

i) *Earthquake risks*

Most recently, SLOMFP attorney Diane Curran appeared before the Atomic Safety and Licensing Board in July 2015 with regard to the relicensing plan for DCP. Expert witness David Jackson, Ph.D, professor emeritus in geology at University of California Los Angeles, presented evidence that the seismic data used by PG&E in the relicensing case were flawed. Dr. Jackson testified that the PG&E's analysis failed to account for nearby earthquakes and failed to account for potential large earthquakes close to the plant. In addition, Dr. Jackson's testimony states that PG&E's seismic hazards assessment "results" are inadequate to support its SAMA (Severe Accident Management Analysis).¹

The possible ground motion caused by simultaneous earthquakes on several connected faults adjacent to the nuclear plant could cause a breakdown in critical safety equipment. The likelihood of an earthquake at the Plant increases with every day of operation. The monetary cost of making necessary repairs and retrofits at the Plant could be enormous if Dr. Jackson's and other seismic experts' opinions are to be considered. Dr. Jackson's testimony also states that historically, the most damaging earthquakes in the world have taken place on unidentified faults. The incalculable cost to the State of California, its residents and its ecosystems, calls for reassessment of the procurement timeline for renewable energy to replace DCP.

ii) *NRC-mandated retrofits and parts replacement*

In addition, the NRC has ordered retrofits and replacement of parts at DCP to meet the post-Fukushima upgrades that were ordered by the NRC in light of the triple meltdowns at the Fukushima Dai-Ichi nuclear plant in 2011. SLOMFP has concern that PG&E is in a difficult position. If all of the upgrades and retrofits are performed, the cost will be passed on to the ratepayers. On the other hand, if PG&E applies for exemptions to these retrofits and upgrades because of the certain closure of the Plant, public health and safety may be compromised. Thus, shuttering DCP much sooner than the end of its licensing period may be the most cost-effective approach.

¹ <https://mothersforpeace.org/data/2015/2015-04-15-new-contention-regarding-adequacy-of-severe-accident-mitigation-alternatives-analysis>

iii) *Replacement of the Stator on Unit 2 Generator*

In 2015, PG&E applied to the NRC for an exemption to the replacement of the Stator on the Unit 2 Diesel Generator, which was granted. This Stator needs to be replaced, and the estimated cost is between \$84 Million and \$151 Million. The following is a description of the problem as presented by PG&E to the NRC:

1. *Unit 2 is experiencing increasing temperatures, which indicates water blockage is occurring in the cooling water passages in the stator coils. Water blockage due to buildup of copper oxides in the stator cooling water passages has occurred on units of similar size and design throughout the industry, such as DCP's Unit 1 and the South Texas Nuclear Unit 2.*
2. *The Unit 2 stator core has shorted laminations resulting in hot spots (electrical shorting between laminations due to degraded insulation causing circulating currents which generate heat at the short location). A number of attempts have been made to repair the core hot spots without success. The Unit 2 stator core also has significant core vibration. Therefore, a stator core iron replacement is required.*
3. *Replacement of the hydrogen cooler tube bundles is required due to age-related degradation (corrosion and wear) and the potential for lead carbonate formation. Lead carbonate is a significant health hazard.*

PG&E has decided not to replace the Stator because of Unit 2's planned closure in 2025. However, as stated by PG&E, the Stator may have to be replaced, because of its severely worn condition. If the Stator breaks down before 2025, the replacement cost will be enormous, and it has the potential for causing health hazards to workers at the Plant.

iv) *Unit 1 Reactor Pressure Vessel*

The reactor pressure vessel of Unit 1 has been deemed by the NRC to be among the five most embrittled reactors in the United States. Reactor pressure vessels, which contain the nuclear fuel in nuclear power plants, are made of thick steel plates that are welded together. Neutrons from the fuel in the reactor irradiate the vessel as the reactor is operated. This can embrittle the steel, or make it less tough, and less capable of withstanding flaws, which may be present. Pressurized water reactors, such as DCP, are more susceptible to embrittlement than boiling water reactors (BWR). NRC regulations at 10 C.F.R. §50.61 provide fracture toughness requirements for protection against pressurized thermal shock ("PTS") events at pressurized water reactors. A PTS can occur when water considerably cooler than the water normally used in

operation of a nuclear power reactor is injected into the reactor pressure vessel; severe cracking of the metal RPV can follow, which in turn can cause a serious nuclear power accident.

A 2014 report "Irradiation Embrittlement of Reactor Pressure Vessels (RPVs) in Nuclear Power Plants" states, "RPV material toughness properties are known to degrade with age because of irradiation damage. While this degradation mechanism was factored into the initial design and considered in the selection of materials of the RPV, a failure of the RPV by rupture or brittle fracture is beyond the design basis of the plant. Therefore, every effort must be made to protect the RPV from brittle fracture by reducing the level of embrittlement or, failing this, by considering even more drastic measures such as RPV thermal annealing or early plant retirement."

In a letter from the NRC to Entergy Nuclear Operations, Inc., dated April 18, 2013, the NRC states that DCP is on the list of the top five most embrittled pressurized water reactors. Yet, in 2015, the NRC authorized PG&E's request to delay inspection of the Unit 1 reactor vessel by 10 years, or until 2025. Previously, regulations required that all the welds in the DCP reactor would be ultrasonically inspected at least every 10 years, with the latest ten-year inspection period completed by the end of 2015. PG&E had previously committed to follow the requirements of the American Society of Mechanical Engineers for inspecting these welds to determine if flaws were developing. This ultrasonic technique is a process similar to that of an ultrasonic sonogram during pregnancy. Despite knowing that DCP's Unit 1's weld copper content was unacceptably high, and despite knowing that DCP was one of the five most embrittled reactors in the United States, the NRC has allowed PG&E to delay these critical weld inspections until 2025.

SLOMFP is extremely concerned that the financial burden resulting from a failure of the Unit 1 reactor pressure vessel by brittle fracture would be more than our economy could withstand. The NRC demonstrated imprudence in granting a 10-year delay in this critical inspection, but the risks from such a delay could be readily mitigated by retiring the Plant much sooner than 2024/2025, and the Commission has a responsibility for considering such an approach in the context of this proceeding.

v) *Adverse Impacts on Marine Life*

SLOMFP understands that PG&E wishes to evade the provisions of the State Water Resources Control Board's (SWRCB) Once-Through-Cooling (OTC) policy while the DCP

remains in service. The substantial harm to marine life caused by DCP's 2.5 billion gallons of ocean water heated 18 to 20 degrees Fahrenheit and pumped back into Diablo Cove should arguably not be tolerated for a full nine additional years. It may be more prudent, on balance, to close DCP sooner than 2024/2025 to avoid these impacts should PG&E wish to continue pressuring the SWRCB not to impose its Federal Clean Water Act-mandated OTC policy on DCP.

vi) *Replacement power timing*

At the Atomic Safety and Licensing Board hearing in July 2015, expert witness Mark Cooper, Senior Fellow for Economic Analysis at the Institute for Energy and the Environment at Vermont Law School, presented testimony² that the electricity from DCP can be replaced with renewable energy in a more timely way than PG&E has projected. Given the rapid rise in the availability of solar, wind and geothermal energy and the rapid innovation in energy storage capacity, the nine-year timeline for closure of the plant is much too long. SLOMFP submits that the transition to renewables can and must be made much sooner.

2. Employee Severance and Retention Program, the Community Impacts Mitigation Program, and Nuclear Decommissioning Fund Use

SLOMFP supports PG&E's proposed program to retain experienced workers in the last years of operation and to soften the financial blows of decreased property taxes on the County of San Luis Obispo (Application at pp. 10-12), but using the nuclear decommissioning fund, paid for by ratepayers, may not be a reasonable and prudent, nor legal, plan. The Commission should consider the appropriateness of requiring the utility's shareholders to shoulder the cost of these programs. The Decommissioning Funds have been designated by the NRC to safely disassemble the plant. 10 CFR § 50.2 of the NRC regulation states:

"Decommission means to remove a facility or site safely from service and reduce residual radioactivity to a level that permits—

(1) Release of the property for unrestricted use and termination of the license; or

(2) Release of the property under restricted conditions and termination of the license."

...

² <http://pbadupws.nrc.gov/docs/ML1427/ML14272A547.pdf>

NRC regulation 10 CFR 50.82(a)(8)(i) provides:

"Decommissioning trust funds may be used by licensees if

(A) The withdrawals are for expenses for legitimate decommissioning activities consistent with the definition of decommissioning in § 50.2."

(emphasis added).

SLOMFP strongly supports the Employee Severance and Retention Program and the Community Impacts Mitigation Program. However, these Programs should be funded by shareholders' profits and not public trust funds.

3. Request to authorize recovery of \$53 Million for license renewal efforts from ratepayers

PG&E states "the Joint Proposal recognizes that it was reasonable and prudent for PG&E to incur the costs related to the federal and state license renewal processes." (Application at p. 3). The issue of whether PG&E's incurred costs was reasonable and prudent is one that should be addressed in this proceeding. SLOMFP believes that it is inappropriate for PG&E to recover its full costs of license renewal efforts from ratepayers since SLOMFP believes it was neither reasonable nor prudent for PG&E to seek license renewal given the unique circumstances surrounding the DCP.

B. Proposed Schedule

PG&E's proposed schedule seems too aggressive and unnecessarily truncated. (See Application at p. 18). Given the substantial environmental and safety risks associated with continuing to operate this nuclear power plant for another nine years, and the significant costs ratepayers might bear from continued operation, it makes sense to provide sufficient time to litigate and consider the issues presented by PG&E's proposal. In furtherance of full transparency and the Commission's careful consideration, MFP proposes the following schedule:

Proposed Date	Event
September 15, 2016	Protest or Response Filed
October 11, 2016	Prehearing Conference
December 9, 2016	Scoping Memorandum issued
January 16, 2017	Supplemental Utility Testimony served (if necessary)
February 15, 2017	Intervenor testimony served

March 15, 2017	Rebuttal testimony served
April 10-14, 2017	Evidentiary hearings held
May 8, 2017	Opening brief filed
June 12, 2017	Reply brief filed
August 2017	Proposed Decision
September-October, 2017	Comments on the Proposed Decision filed
December 2017	Final Decision

IV. Communications

All correspondence, pleadings, testimony, orders and notices in this proceeding should be directed to the following:

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(Information Only)

V. Conclusion

As provided in Rule 1.4(a)(2), by filing this response, SLOMFP respectfully requests party status in this proceeding.

Respectfully submitted,

Dated: September 15, 2016

/s/ Sabrina D. Venskus

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